C.U.SHAH UNIVERSITY – Wadhwan City

FACULTY OF: -Technology and Engineering (Diploma Engineering)
DEPARTMENT OF: - Civil Engineering
SEMESTER: - VI **CODE**: -2TE06DSS1
NAME –Design of Steel Structures

Teaching & Evaluation Scheme:-

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme								
							Theory				Practical (Marks)				Total
											Internal		University		
		Th	Tu	Pr	Total		Sessional Exam		University Exam		Pr	TW	Pr	Tw	
							Marks	Hours	Marks	Hours					
2TE06DSS1	Design of Steel Structures	04	02	00	06	05	30	1.5	70	03	---	20	30	--	150

Objectives: It general knowledge of structural for any construction for load, bolted and welded connections and design of fillet welds for truss members.
Pre-requisite: Basic knowledge of various Construction Technology and Design of concrete structures.
Course Outlines:-

Sr. No.	Course Contents	Teaching Hours
1	**Introduction to IS: 800 – 2007:-** Structural steel and properties of structural steel, Limit state design, Limit state of strength, Limit state of serviceability. Action (loads), Design strength, Partial safety factor for materials, Loads, Load combination and partial safety factors for loads. Maximum effective slenderness ratio	10
2	**Bolted and Welded Connections:-** Riveted connection**,** Bolted connection**,** Classification of bolts**,** Explain terms: Pitch of bolts, gauge distance, edge distance, end distance tacking Fasteners.IS: 800 – 2007 Provisions for clearance for holes, spacing, edge And end distance, tacking fasteners. Type of bolted joints and failures of bolted joint. Design strength of bolt and efficiency of joints. Design of bolted joint for truss members, Advantages and disadvantages of welded joints. Type of welded joints. Explain terms : Size of weld, throat, thickness , effective length, Design stresses. Design of fillet welds for truss members	15
3	**Tension member:-** Standard Sections used as a tension member, Design Strength of a tension member **,**Design Strength due to yielding of grows section**,** Design Strength due to rupture of critical section**,** Design Strength due to block shear, Find design strength of members, Design of tension members for angle sections	15
4	**Column Base:-** Types of column base, Design of slab base, Sketch of gusseted base	10
5	**Compression member:-** Slandered sections used as compression member, Buckling class of cross section, Effective length and slenderness ratio, Design compressive stress and strength, Find design strength of strut, Design of strut, Design of simple column and built up column, Design of lacings, Design of battens	10

Term Work It maximum calculated examples of bolted and welded connections and Tension member, compression member.

Learning outcomes: It understand of structure in bolt and welded connections and also understand Design of compressive stress and strength.

IS Codes:

1. IS 800-2007: Code of practices for General construction in steel
2. IS 875-1987 Part –I to III
3. SP: 6(1) - Steel structural hand book

Books Recommended:

1. Design of steel structural. By S.S.Bhavikatti.
2. Limit state design of steel structures. By Dr. V. L. Shal and Veena Gore
3. Design of steel structures. By N. Subhramaniam.